EM

After Action Report

For

Immediate Removal Action

Bath Electrical Systems, Inc.

Clute, Brazoria County, Texas

Spill Number: FY85-1702

TXD 065103327

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Emergency Response Branch (6E-EF)

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ATTACHMENTS

I. SUMMARY OF EVENTS:

A. Initial Situation

Bath Electrical Systems, Inc. (BES) specializes in maintenance testing electrical equipment and PCB equipment reclassification and has been in business since 1969. BES had four 1000 gallon capacity skid tanks placed on level ground without any dikes or fire walls around the tanks. The tanks were filled with mineral oil containing the following concentrations of PCBs:

Tank #1	51,590 ppm PCBs
Tank #2	3,480 ppm PCBs
Tank #3	53,000 ppm PCBs
Tank #4	78,000 ppm PCBs

On the night of September 17, 1985 or in the early morning hours of September 18, 1985, these four tanks were drained off and spilled approximately 3,600 gallons of PCB oil in the yard and into a drainage ditch about 150 feet north of the discharge point. The PCB oil slowly spread and contaminated an 800 foot section of the ditch that runs parallel to Highway 288. During rains, the ditch empties into Bayou Bastrop 1/4 of a mile away. The spill was discovered by two BES, Inc. employees at 0715 hours on September 18, 1985.

The BES personnel dammed the impacted section of the drainage ditch with sand, thus preventing the PCB contaminated liquid from flowing into Bayou Bastrop.

B. Cause of Discharge

BES reported that vandals opened the drain valves and ventilated the tank tops allowing most of the PCB oil to flow onto the ground and then into the ditch. The incident was immediately reported to the Brazoria County Sheriff's office.

C. Location

BES is located at 5009 N. Highway 288, Clute, Brazoria County, Texas. The location coordinates are latitude 29 04'50" N and longitude 92 24'45" W.

D. Record of Response

1. Spill Notification

Upon discovery of the PCB spill, Mr. Thomas Soderman, President of BES contacted the Brazoria County Health Department, the Sheriff's Department, the Texas Water Commission (TWC) and the Houston EPA Office. The Houston EPA Office advised BES to call the EPA Hotline in Dallas to report the spill. The spill was reported at 1430 hours on September 18, 1985.

2. Chronology of Events

The EPA's Region VI Emergency Response Branch requested the Technical Assistance Team (TAT) to respond to the spill and brief the OSC. TAT members Frank Onellion and Rashid Khalid were dispatched to the scene.

TAT arrived at the site at 1800 hours. They found that the ditch had been dammed and that the firm's insurance company, Liberty Mutual had been contacted. An insurance adjuster was working to determine the cleanup costs and whether the situation would warrant coverage under their policy.

While waiting for the insurance issue to be resolved, the areas of contamination were delineated with barrier tape and BES employees began pumping the contaminated oil and water from the drainage ditch into a number of skid tanks. The pumping continued into the afternoon of September 19th and approximately 8,500 gallons of water and oil were collected. At 1405 hours on September 19th, the insurance company approved the use of a bulldozer to dig the ditch but no approval was given to remove the liquid from the ditch. It was also learned that Dr. Larry Froebe, Ecology and Environment, Inc., would be arriving that evening to serve as an on-scene consultant for the insurance firm. Dr. Froebe arrived and met with BES officials, the cleanup firm officials from Rollins Environmental Services, Inc., and TAT. An estimate of $250,000 to remove the PCB contamination was derived and relayed to the insurance company. By 0850 hours on September 20th, it was learned that the insurance company would cover the third party loss; that is, they would pay for cleaning up the off-site contamination but not the on-site contamination.

While negotiations with the insurance company were going on, the EPA was preparing for an immediate removal action in the event a timely settlement could not be reached. The EPA Emergency Response Branch conducted conference calls with the BES officials, the insurance representative and with TAT to determine if a removal action seemed imminent. It was decided to have an On-Scene-Coordinator (OSC) at the site to augment progress; the OSC arrived during the early afternoon of September 20th.

A meeting of all concerned parties was held shortly after the OSC arrived. The OSC issued an ultimatum that EPA would undertake the cleanup at 1600 hours if an agreement could not be reached to begin the private party cleanup. Although the insurance company had agreed to pay for the off-site cleanup, there were problems with the cleanup contractor receiving the proper authorization to begin work and the problem of the on-site cleanup funding. The OSC persisted in her demand to have all matters resolved by 1600 hours and was successful in her efforts. Rollins received word to begin work and BES signed an agreement with Rollins to have the Rollins Operations Supervisor oversee the BES funded cleanup on site.

Cleanup began that evening (September 20th) with vacuum trucks being used to remove the remaining water and oil from the ditch. The liquid was taken to the Rollins facility in Deer Park, Texas, for disposal. Vacuuming operations were completed by 2355 hours on September 20th and further cleanup work was suspended until 0730 hours on September 21st. A security guard was posted at the site until work resumed.

The crew arrived, prepared for work, and had their safety meeting by 0815 hours on September 21st. The events that day involved vacuuming out the water which had seeped into the ditch overnight. The PCB oil which had been pumped from the ditch by BES personnel was transferred to two vacuum trucks for transport to the Rollins incinerator. Three loads of lime were brought in and applied to the mud in the ditch. The track hoe was used to mix the lime with the mud, thereby reducing the amount of free water in the soil. The liming operation was necessary to "solidify" the soil for disposal purposes, but the dust created during the process was of concern to the Brazoria County Health Department on-scene representative, Mr. R. A. Kees. Efforts were made to minimize the dust problem but not much reduction could be achieved.

The liming and mixing operation was completed at 1447 hours; at that time the track hoe operation began the process of the removal of seven culverts which traversed the drainage ditch within the affected area. At the same time, the BES crew was scraping soil from the on-site affected area. The soil was removed to a visible clean zone which varied in depth from 2 to 24 inches below the surface. The soil was combined into two piles, a large pile and a smaller pile, to minimize the possibility of contaminating the "clean" zone with the backhoe wheels.

By 1814 hours, Rollins had determined the final quantity of liquids transported for incineration; that figure was 21,100 gallons.

Work proceeded into the night of September 21st, and by 2100 hours, the first truck was loaded with the solidified mud. Truck scales were brought to the site so that each truck could be loaded to its maximum allowable weight since transportation costs would be significant. Rollins had arranged for disposal of the solids at U. S. Ecology in Beatty Nevada.

A forecast of rain the next day necessitated the work to continue into the night. There was a certain amount of noise associated with the loading operation and at 0030 hours on September 22nd, one of the area residents came to the site to complain about the disturbance and threaten legal action. She was told that the noise was regrettable, but nevertheless necessary to avoid a much more serious situation if rain occurred. The resident was not satisfied with the answer. The OSC contacted EPA legal counsel for advice in case there were further difficulties, however there were none.

By 0245 hours on September 22nd, a total of 17 trucks had been loaded. Work was stopped at 0325 hours. There was a shortage of trucks available for hire on the weekend, so a contingency plan for rain was developed to pile the contaminated soil in a single pile and scrape the ditch to a uniform depth. A plastic liner would then be used to prevent rain water from contacting the scraped sections until sampled and the sample results from the clean zone could be obtained.

Activities resumed at 0650 hours, but it became evident that only a few trucks would be coming. By this time almost two-thirds of the ditch had been cleaned and shaped. A roll of 60 mil thickness plastic sheeting (34 feet wide and 600 feet long) was located and placed on standby in case of rain. A sampling plan was developed which involved taking 34 grab samples from the bottom of the ditch at 24-foot intervals and composite samples from each of the four quadrants on the BES property. A background sample also would be taken; its location was decided to be the ditch bottom immediately south of the south dam (water flows north in the drainage ditch). EPA also wantd six split samples for quality assurance purposes.

The total loads of solidifed mud hauled on September 22nd was 11, making a grand total of 28 loads (44,000-47,000 pounds per load) hauled. The sampling of the cleaned two-thirds portion of the drainage ditch and the on-site cleaned quadrants was also conducted. The samples were taken to an area lab, MBA laboratories, for analysis. A tandem truck was brought in and was used to tranfer the remaining soil in the ditch to a single pile in the southern portion of the ditch.

The cleanup had progressed to a point where the OSC no longer c onsidered it necessary to stay; the OSC departed for Dallas at 1730 hours. The TAT departed for home at 2004 hours to return on September 23rd.

The activities of September 23rd consisted of loading trucks with solidified mud, as adequate numbers of trucks were available. The tandem truck was decontaminated after the ditch soil was moved into a single pile. The TAT checked with EPA on TSCA temporary storage requirements for the on-site soil as BES officials were not financially prepared to remove all of it at the present time.

Brazoria County Health Department representative Kees visited the site and asked for a copy of the TAT's report when it was prepared. Finally, all material considered to be heavily contaminated was removed from the ditch by 1600 hours. The grand total of loads hauled to Beatty, Nevada was 42 or heavily contaminated soil. The last portion of the ditch was sampled and the samples were taken to the laboratory for analysis.

Sample results were being made available on September 24th and 25th. From earlier conversations with the Texas Water Commission (TWC), a cleanup level of 10 ppm and below was considered acceptable. Several of the samples collected from the ditch bottom contained PCBs in excess of 10 ppm, so further excavation was necessary. BES officials had placed the majority of their comtaminated soil on-site into two 50 cubic yard mud tanks on September 25th and 26th and covered the tanks with plastic. After the ditch was further excavated, it was covered with plastic until the second set of sample results could be obtained; when the results were returned, there was still one "hot" spot remaining (greater than 50 ppm PCBs). This 24 foot section was excavated on September 28th, and resampled.

At least one sample still exceeded the 10 ppm desired concentration and the TWC was again consulted on cleanup levels. It was decided that individual areas could contain up to 50 ppm as long as there were only isolated areas at which this concentration remained.

The on-site portion of the cleanup was subject to different cleanup levels. The EPA draft policy stated that material spilled which had a PCB content greater than 25 ppm. There was some flexibility on the 25 ppm limit, but EPA would be satisfied if all quadrants were cleaned to 25 ppm or below. That cleanup level was finally achieved after the third set of samples were taken on September 27th, and analyzed.

After the PCB levels in the drainage ditch were reduced to the EPA and TWC acceptable levels, the restoration of the ditch started on September 30th. This included filling the ditch with clean soil, regrading the banks, placement of the culverts, reconstruction of the driveways and hydroseeding.

On October 23rd, TAT visited the site to obtain photographs on the restored ditch and the cleaned BES property. TAT found that wet weather had delayed the hydrodeeding, but all culverts had been installed and the ditch was restored to better than original conditions. TAT also learned that BES officials had only 65 cubic yards of soil remaining in boxes on the site. The soil was to be removed to a landfill prior to January 1, 1986 which is when the temporary storage condition under TSCA expires. The on-site TAT action was complete with the final visit on October 23rd. The hydroseeding of the ditch banks was completed on November 15th and thus, the restoration of the impacted area to the prespill condition was accomplished.

II. DISPOSAL PLANNING:

The liquid was transported to the Rollins Deer Park facility for incineration. The soil was transported to Beatty, Nevada to be landfilled.

III. HEALTH AND SAFETY:

The BES personnel were not equipped to handle the initial response, as a result their safety procedures were seriously lacking.

Rollins held a ten minute safety session every morning. Their personnel were properly equipped and adequately protected.

IV. RESOURCES COMMITTED:

This action was conducted by the Responsible Party.

V. EFFECTIVENESS OF REMOVAL ACTION:

A. Responsible Party

The PCB contamination in the spill area and the drainage ditch have been reduced to the levela acceptable to the TWC and the EPA. Most of the PCB contaminated materials have been removed and disposed of according to the EPA regulations. A small quantity of PCB contaminated material is stored on-site pending financial arrangements for disposal. The PRP has complied with the appropriate regulations and cooperated fully during the cleanup.

B. State and Local Forces

Communications with the TWC regarding the PCB cleanup levels had been a problem during this operation. However, the OSC was able to get through to the appropriate district level personnel and resolved the problem without delays in removal operations.

C. Federal Agencies

The EPA's persistant demand of immediate action to clean up the spill resulted in the Liberty Mutual's hiring a consultant to quickly assess the situation for cleanup. Dr. Larry Froebe of Ecology and Environment, Inc., was quite valuable in getting the PRP cleanup going because of his past experience as a TAT contractor to EPA. He was able to convince the insurance company which he represented (as a consultant) that the cleanup was entirely necessary. Someone with less than Dr. Froebe's experience would have had difficulty in getting the insurance company to move as quickly as they did. Had that been the case, an EPA cleanup would have been an unavoidable consequence.

The TAT and OSC closely monitored the cleanup operations, the sampling of the ditch and the yard after excavation, and the development of further plans of action based on analytical results. The TAT also closely monitored the health and safety of workers during cleanup and sampling operations.

D. Contractors

Once the financial matters were settled, the cleanup of the impacted ditch and the BES yard progressed very smoothly. Rollins utilized all available resources to remove the contaminated materials from the drainage ditch and the threat of PCB contamination of Bayou Bastrop was greatly reduced.

II. CONCLUSIONS AND COMMENTS:

The reported lack of financial resources of BES and insurance company's hesitancy to immediately commit funds for cleanup created a potentially serious problem in the first 36 hours after the spill. It was imminent that federal takeover would be necessary to contain the PCB contamination within the diked drainage ditch area. However, several positive developments in the next 24 hours averted that situation and the PRP started cleanup operations.

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Emergency Response Branch (6E-EF)

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On- Scene Coordinator Date